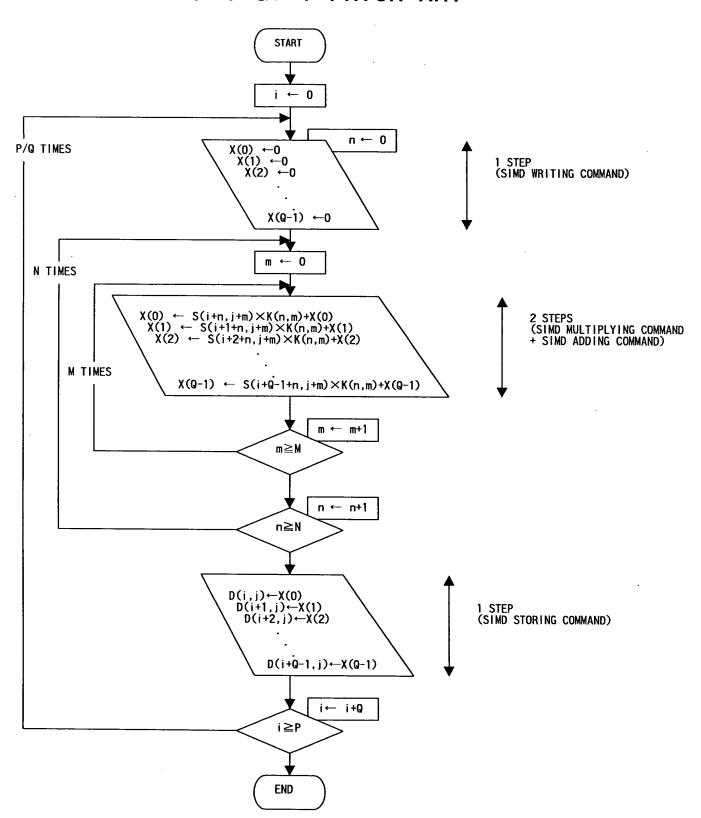
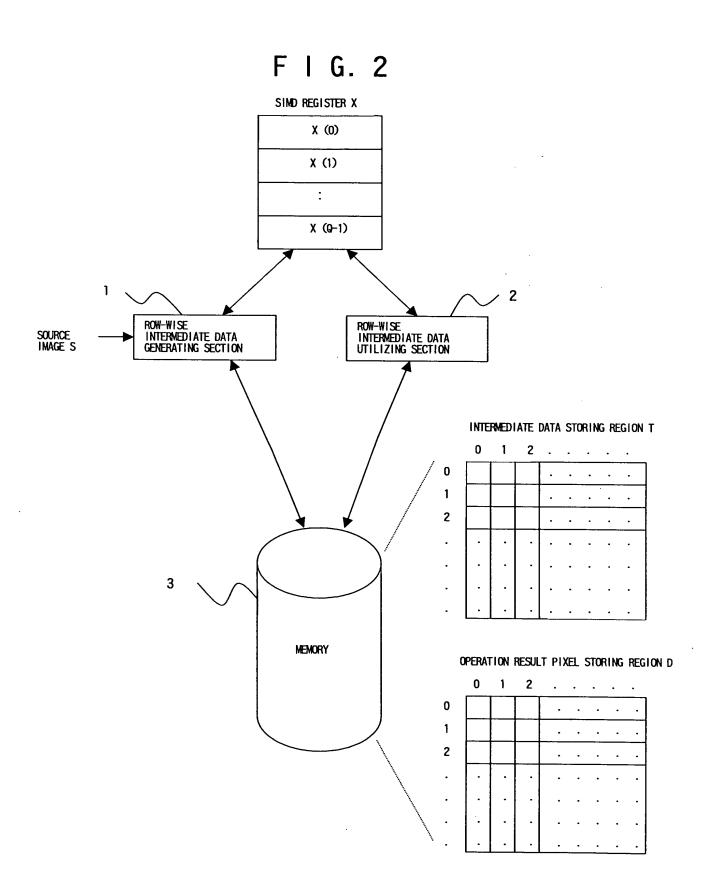
F I G. 1 PRIOR ART



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F I G. 3

SYMMETRIC KERNEL COEFFICIENTS

K(0,0)	K(1,0)	K(2,0)
K(0,1)	K(1,1)	K(2,1)
K(0,2)	K(1,2)	K(2,2)

IN THIS,

K(2,0) == K(0,0)

K(2,1)==K(0,1)

K(2,2)==K(0,2)

SOURCE IMAGE S

,	OHOL IMAGE .	-	<u> </u>					
		···						
						-	· · · · · · · · · · · · · · · · · · ·	=
(i-1,j)	(i+0,j)	(i+1,j)	(i+2, j)	(i+3, j)	(i+4, j)	(i+5,j)	(1+6,j)	(i+7, j)
(i-1,	(i+0,	(i+1,	(i+2,	(i+3,	(i+4,	(i+5,	(1+6,	(i+7,
j + 1)	j+1)	j+1)	j+1)	j+1)	j+1)	j+1)	j+1)	j + 1)
			1 1					
(i-1,	(i+0,	(i+1,	(i+2,	(i+3,	(i+4,	(i+5,	(1+6,	(i+7,
j + 2)	j + 2)	j+2)	j+2)	j+2)	j + 2)	j + 2)	j+2)	j + 2)
	D(i,j)							
					D(i+2, j)			

D(i,j), D(i+2,j): TWO OPERATION RESULT PIXELS POSITIONED IN THE SAME ROW

$$\begin{split} D(i,j) &= S(i,j+0) \times K(0,0) + S(i+1,j+0) \times K(1,0) + \underbrace{S(i+2,j+0) \times K(2,0)}_{+ S(i,j+1) \times K(0,1) + S(i+1,j+1) \times K(1,1) + \underbrace{S(i+2,j+1) \times K(2,1)}_{+ S(i,j+2) \times K(0,2) + S(i+1,j+2) \times K(1,2) + \underbrace{S(i+2,j+2) \times K(2,2)}_{+ S(i,j+2) \times K(2,2)} \end{split}$$

COMMON ITEMS

 $D(i+2,j) = \frac{S(i+2,j+0) \times K(0,0)}{S(i+2,j+0) \times K(0,0)} + S(i+3,j+0) \times K(1,0) + S(i+4,j+0) \times K(2,0)$

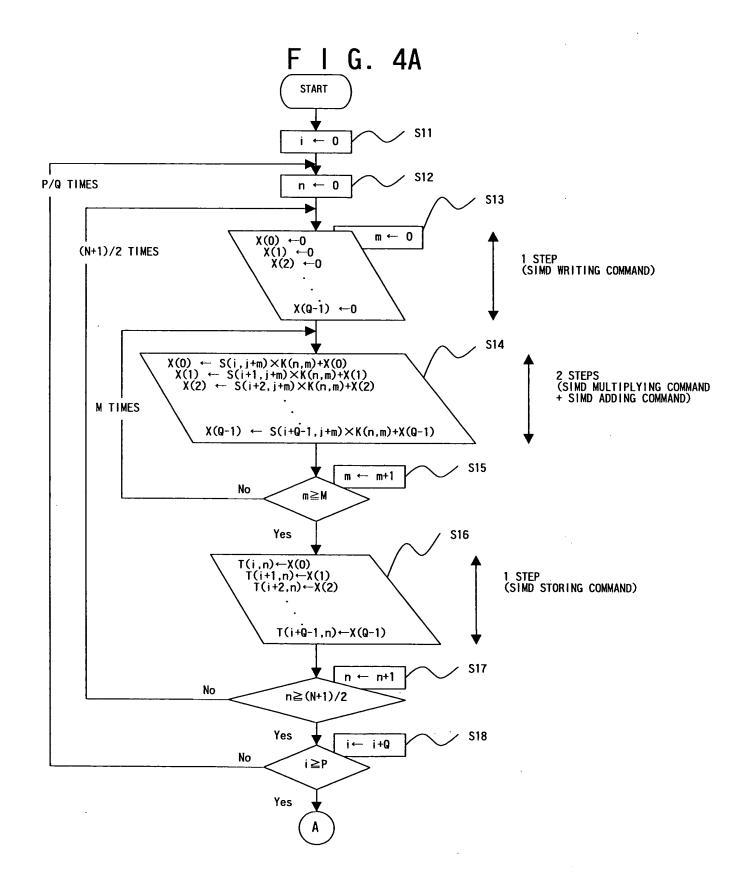
+ $S(i+2,j+1)\times K(0,1)+S(i+3,j+1)\times K(1,1)+S(i+4,j+1)\times K(2,1)$

+ $S(i+2,j+2) \times K(0,2) + S(i+3,j+2) \times K(1,2) + S(i+4,j+2) \times K(2,2)$

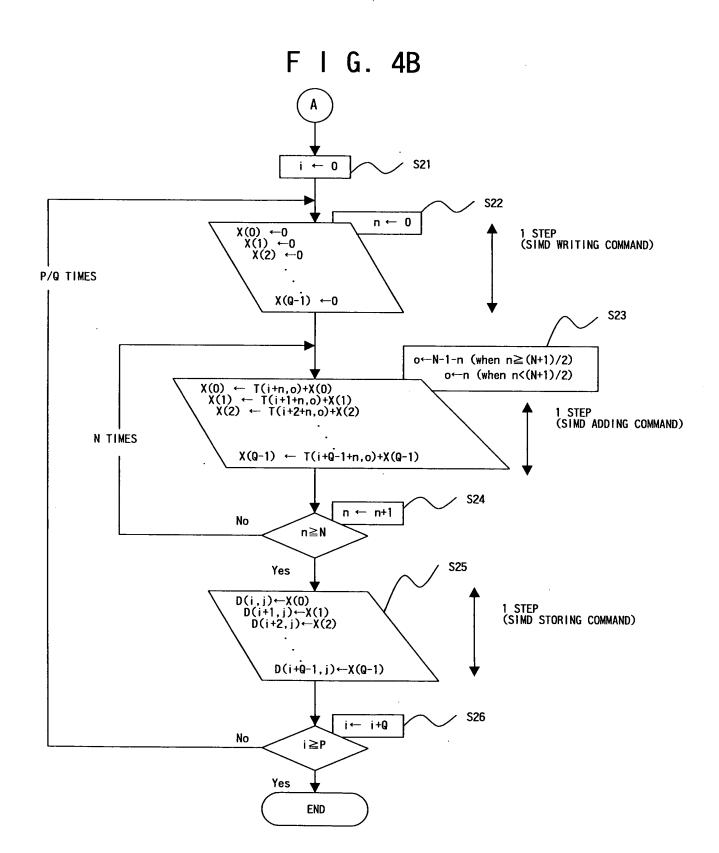
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F I G. 5

	n →												
	0	1	2	3	4	5	6	7	8	9	10	11	12
m 0	0	0	0	0	0	-1	-1	-1	0	0	0	0	0
1	0	0	0	-1	-1	-2	-2	-2	-1	-1	0	0	0
2	0	0	-2	-2	-3	-3	-4	-3	-3	-2	-2	0	0
3	0	-1	-2	-3	-3	-3	-2	-3	-3	-3	-2	-1	0
4	0	-1	-3	-3	-2	+4	+6	+4	-2	-3	-3	-1	0
5	-1	-2	-3	-3	+4	14	19	14	+4	-3	-3	-2	-1
6	-1	-2	-4	-2	+6	19	24	19	+6	-2	-4	-2	-1
7	-1	-2	-3	-3	+4	14	19	14	+4	-3	-3	-2	-1
8	0	-1	-3	-3	-2	+4	+6	+4	-2	-3	-3	-1	0
9	0	-1	-2	-3	-3	-3	-2	-3	-3	-3	-2	-1	0
10	0	0	-2	-2	-3	-3	-4	-3	-3	-2	-2	0	0
11	0	0	0	-1	-1	-2	-2	-2	-1	-1	0	0	0
12	0	0	0	0	0	-1	-1	-1	0	0	0	0	0

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	j -	→													
j	1	2	3	4	. 5	6	7	8	9	0	1	2	•	•	•
1	11	12	13	14	15	16	17	18	19	10	11	12	•	•	•
	21	22	23	24	25	26	27	28	29	20	21	22	•	•	•
	31	32	33	34	35	36	37	38	39	30	31	32	•	•	•
	41	42	43	44	45	46	47	48	49	40	41	42	•	•	•
	51	52	53	54	55	56	57	58	59	50	51	52	•	•	•
	61	62	63	64	65	66	67	68	69	60	61	62	•	•	•
	71	72	73	74	75	76	77	78	79	70	71	72	•	•	•
	81	82	83	84	85	86	87	88	89	80	81	82	•	•	•
	91	92	93	94	95	96	97	98	99	90	91	92	•	•	•
	101	102	103	104	105	106	107	108	109	100	101	102	•	•	•
	111	112	113	114	115	116	117	118	119	110	111	112	•	•	•
	121	122	123	124	125	126	127	128	129	120	121	122	•	•	•
	131	132	133	134	135	136	137	138	139	130	131	132	•	•	•
	141	142	143	144	145	146	147	148	149	140	141	142	•	•	•
	151	152	153	154	155	156	157	158	159	150	151	152	•	•	•

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F I G. 7

r	
THE NUMBER OF	REDUCED RATE OF OPERATION STEPS
N AND M	(%)
3	16.67
5	30.00
7	35.71
9	38.89
11	40.91
13	42.31
15	43.33
17	44.12
19	44.74
21	45.24
23	45.65
999	49.90